

Claims.

- 1). A plant for concentration of tomato juice, wherein it comprises: an evaporator (1) of known type, provided with an external sleeve (2), in which a heating fluid circulates, which surrounds a vertical tube bundle (3), arranged in a central part (1a) of the evaporator (1), in which tubes (3) the tomato juice circulates, the tubes (3) being divided into a plurality of sectors (3a, 3b, 3c and 3d) all operating at a same temperature and pressure and in which the tomato juice circulates in succession; an upper plate (4) and a lower plate (5), which, together with the sleeve (2), delimit the central part (1a), on which upper plate (4) and lower plate (5) ends of the tubes (3) are keyed in order that upper ends of the tubes open into an inlet zone (4a) of the evaporator in which the tomato juice is distributed (1), and lower ends of the tubes (3) open into a bottom zone which is a separation chamber (5a) of the evaporator (1); means for circulating (6a, 6b, 6c) of known type, for removing the tomato juice from a sector of the chamber (5a) and sending the tomato juice to an inlet zone of a successive sector; at least one heat exchanger (7) of known type arranged externally of the evaporator (1) and divided into a plurality of sectors (7a, 7b, 7c) in each of which sectors the tomato juice exiting from a sector of tubes (3a, 3b, 3c) of the evaporator (1) is heated to a same temperature as a temperature present in the central part (1a) of the evaporator (1), before being sent on to a successive sector.
- 2). The plant of claim 1, wherein it comprises: a compressor (8) of known type for aspirating steam from the separation chamber (5a) of the evaporator (1), for compressing the steam and for introducing the steam into the central part (1a) of the evaporator (1); a gas turbine (9) of known type, powered by live steam coming from a boiler (10) and powering the compressor (8); discharge steam

-10-

from the gas turbine (9) constituting a heating fluid necessary for operation of the plant.

3). The plant of claim 2, wherein it comprises a steam ejector (11) of known type, a primary fluid of which is the discharge steam coming from the gas turbine (9),
5 which steam ejector (11) extracts heating fluid from the central part (1a) of the evaporator (1); fluid exiting from the steam ejector (11) constituting heating fluid for the heat exchanger (7).

4). The plant of claim 1, wherein: a temperature internal of the central zone (1a) of the evaporator is comprised between 72° and 80°C; a temperature internal of
10 the separation chamber (5a) of the evaporator (1) is comprised between 67° and 75°C.